

REMARKS

Claims 1-19 have been rejected as reciting subject matter anticipated by certain teachings contained in the Schaefer patent. Before addressing the basis presented by the Examiner in support of the rejection of the claims, it may be well to review the extent of the pertinent teachings contained in the Schaefer patent.

The Schaefer patent teaches the use of a check valve 34 upstream from the ozone generator to prevent a backflow of ozone from ozone generator 22. A check valve 40 downstream of the ozone generator prevents an inflow of water to the ozone generator. As particularly set forth in column 2, line 8, check valve 34 “provides a secondary valve preventing contaminated liquid from backing up into the pressure relief and control valves if apparatus 10 should malfunction”. Moreover, “check valve 40 prevents the liquid in tank 14 from backing up into generator 22 if apparatus 10 should malfunction”.

The ozone produced by an ozone generator is very corrosive and will cause deterioration of conventional check valves conveying the ozone unless such check valves are manufactured of special materials which remain unaffected by the passage of ozone. Such check valves are significantly more expensive than conventional check valves used in air handling apparatus. Thus, an incentive exists to eliminate check valves downstream of an ozone generator. By experimentation, it has been learned that the presence of pressure above ambient pressure in a conduit downstream from an ozone generator will tend to preclude a flow of water from the ozone entrainment device to the ozone generator. Even in the event of a malfunction resulting in

water flowing into the ozone generator, the degree of damage or deterioration of the ozone generator is generally nominal. By employing a loop 40, as depicted in Figures 1 and 2 of the present application, flow of water to the ozone generator is prevented by the force of gravity. However, it has been learned that even without such a loop, the pressure in the conduit between the ozone generator and the ozone entrainment device created by a check valve upstream of the ozone generator or in the suction conveying air to the ozone generator will minimize, if not preclude, flow of water from the entrainment device to the ozone generator. By using a check valve only in the suction line, it is only subjected to air and will not be subjected to the corrodng effects of ozone. Thus, a relatively inexpensive conventional check valve can be used.

The use of two check valves on opposite sides of an ozone generator, as epitomized by the teachings in the Schaefer patent, has been standard practice for decades. The gist of the present invention is the realization that two such check valves are, in fact, not necessary to maintain operation of the apparatus for entraining ozone in water flowing into a pool or spa.

To more particularly point out and distinctly claim the invention, Claim 1 has been amended to recite the conduit (paragraph e) interconnecting the ozone generator with the venturi to accommodate flow of ozone in either direction, which recitation eliminates the presence of a check valve therein, as taught in the Schaefer patent. Additionally, paragraph g has been amended to recite the check valve upstream of the ozone generator to prevent a reverse gas flow through the suction line upstream of the ozone generator. Thereby, Claim 1 recites subject matter not present in and counter to the teachings embodied in the Schaefer apparatus.

Claim 7 has been amended in new paragraph d to recite the step of conveying the ozone directly to the entrainment device and accommodating a reverse flow. Additionally, new paragraph g has been added to recite the step of precluding an outflow of air and ozone from the suction line.

Claim 11 has been amended in new paragraph b to recite the step of accommodating flow of ozone through a conduit from the venturi to the ozone generator. For consistency of recitations, new paragraph c has been added to recite the step of entraining ozone from the conduit in the water flowing through the venturi. New paragraph d has been added to recite the step of preventing a reverse flow of air and ozone from the ozone generator through the suction line, which step is accomplished by a check valve disposed in the suction line, as recited.

Claim 15 has been amended in paragraph c to recite the conduit as conveying ozone from the ozone generator to the entraining device and accommodating a reverse flow. Additionally, paragraph e has been amended to recite a check valve as being disposed only in the suction line.

By the above amendments to each of the independent claims, it is evident that the independent claims recite subject matter different from and not found in the disclosure in the Schaefer patent. As the structure and methodology now recited in the independent claims, the teachings in the Schaefer patent are incapable of anticipating the claimed subject matter. Accordingly, the withdrawal of the rejection of Claims 1-19 under 35 USC § 102 is respectfully requested.

Claim 20 has been rejected as reciting subject matter obvious over certain teachings contained in the Schaefer patent in view of the loop disclosed in Figure 1 of the present application. As Claim 15, from which Claim 20 depends, recites subject matter not found in the Schaefer patent and as the prior art relied upon by the Examiner does not cure the deficiency in the Schaefer patent, withdrawal of the rejection of Claim 20 is respectfully requested.

In view of the fact that the present invention resulted from development of an understanding that check valves at both the inflow and outflow of an ozone generator used for entraining ozone in water flowing into a pool or a spa are not necessary, the amendments to the claims to more particularly point out and distinctly claim this invention and the correlation of the subject matter recited in each of the independent claims with the disclosure contained in the Schaefer patent, it is believed that the application is in condition for allowance, which allowance is respectfully requested.

Respectfully Submitted,

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